

REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)

RECEIVED
OCT 13 2000
File Information Unit

In re Application of	
A. Peck	
Application Number	Filed
08/432434	OCT 25 1995
Group Art Unit	Examiner
1808	

Assistant Commissioner for Patents
Washington, DC 20231

Paper No. #14

I hereby request access under 37 CFR 1.14(a)(3)(iv) to the application file record of the above-identified ABANDONED application, which is: (CHECK ONE)

(A) referred to in United States Patent Number 6001647, column _____.

(B) referred to in an application that is open to public inspection as set forth in 37 CFR 1.11, i.e., Application No. _____, filed _____, on page _____ of paper number _____.

(C) an application that claims the benefit of the filing date of an application that is open to public inspection, i.e., Application No. _____, filed _____, or

(D) an application in which the applicant has filed an authorization to lay open the complete application to the public.

Please direct any correspondence concerning this request to the following address:

CAROLYN FREEMAN - PATENTEC 703 418-2777
2001 JEFF. DAVIS HWY #301
ARLINGTON, VIRGINIA 22202

Carolyn Freeman

Signature

10-13-00

Date

Typed or printed name

FOR PTO USE ONLY

Approved by: gk

Initials

File Information Unit



US006001647A

JF/14

United States Patent [19]

Peck et al.

[11] Patent Number: 6,001,647

[45] Date of Patent: *Dec. 14, 1999

[54] IN VITRO GROWTH OF FUNCTIONAL ISLETS OF LANGERHANS AND IN VIVO USES THEREOF

[75] Inventors: Ammon B. Peck; Janet G. Cornelius, both of Gainesville, Fla.

[73] Assignee: Ixion Biotechnology, Inc., Alachua, Fla.

[*] Notice: This patent is subject to a terminal disclaimer.

[21] Appl. No.: 08/547,746

[22] Filed: Oct. 25, 1995

Related U.S. Application Data

[63] Continuation-in-part of application No. 08/432,434, Apr. 28, 1995, abandoned, which is a continuation-in-part of application No. 08/234,071, Apr. 28, 1994, Pat. No. 5,834,308.

[51] Int. Cl. 6 C12N 5/00

[52] U.S. Cl. 435/325; 435/383; 435/384; 435/392

[58] Field of Search 435/325, 383, 435/384, 392

[56] References Cited

U.S. PATENT DOCUMENTS

4,439,521 3/1984 Archer et al.
4,946,438 8/1990 Reemtsma et al.
5,646,035 7/1997 Coon et al.

FOREIGN PATENT DOCUMENTS

0 363 125 2/1989 European Pat. Off.
WO 86/01530 3/1986 WIPO
WO 93/00441 1/1993 WIPO
WO 94/23572 10/1994 WIPO

OTHER PUBLICATIONS

Yu et al. (1990) Tianjin Medical Journal 18(11):643-47.
Nielsen (1985) Acta Endocrinologica, Suppl. 266:7-39.
Otonkoski et al. (1994) Diabetes 43:1164-66.
Watanabe et al. (1994) PNAS USA 91:3589-92.
Altman et al. (1984) Trans. Am. Soc. Artif. Intern. Organs 30:382-386.
Hellerstrom et al. (1988) in The Pathology of the Endocrine Pancreas in Diabetes, P.J. Lefebvre and D.G. Pipeleers, eds., Springer-Verlag, Heidelberg, Germany, pp. 141-170.
Rosenberg et al. (1992) in Pancreatic Islet Cell Regeneration and Growth, A.I. Vinik, ed., Plenum Press, New York, pp. 95-109.
Beattie et al. (1994) J. Clin. Endocrin. Metabol. 78:1232-40.
Teitelman et al. (1993) Development 118:1031-39.
Menger et al. (1994) J. Clin. Invest. 93:2280-85.
Wegmann et al. (1993) J. Autoimmunity 6:517-27.
Otonkoski et al. (1994) Diabetes 43:947-53.
Gu et al. (1993) Development 118:33-46.
Bonner-Weir et al. (1993) Diabetes 42:1715-20.
Pictet et al. (1972) in Handbook of Physiology, R.L. Pictet et al., eds., Williams & Wilkins, Baltimore, MD, pp. 25-66.

Wang et al. (1987) Diabetes 36:535-538.
Kanaka-Gantenbein et al. (1995), Endocrinology, 138(7):3154-3162.

Nielsen, *Diabetes* (1994), 43: No. 2, 7-39.

Peck et al., *European Journal of Immunology* (1973), 3:385-392.

Peck et al., *Journal of Immunological Methods* (1973), 3:147-164.

Pontesilli et al., *Clin. exp. Immunol* (1987), 70:84-93.

Rao et al., *Cell Differentiation and Development* (1990), 29(3):155-163 (1996).

Reddy et al., *Diabetologia* (1988), 31:322-328.

Shieh et al., *Autoimmunity* (1993), 15:123-135.

Signore et al., *Diabetologia* (1989), 32:282-289.

Takakai, *In Vitro Cellular & Developmental Biology* (1989), 25:No. 9, 763-769.

Teitelman, *Tumor Biol.* (1993), 14:167-173.

Vinik, *Pancreatic Islet Cell Regeneration and Growth* (1992), 1-5.

Wang et al., *Diabetes* (1987), 36:535-538.

Yu, et al., *Tianjin Medical Journal*, (1990), 18:No. 11, 643-47 (1990).

Kuo et al., *Pancreas*, (1992), 7(3):320-325.

Kuo et al., (Abstract), *Clinical Research*, (1990), 28(1):58A.

Anderson et al., *Autoimmunity* (1993), 15:113-122.

Baekkeskov et al., *Nature*, (1990), 347:151-156.

Baekkeskov et al., *Nature* (1982), 298:167-169.

Bendelac et al., *The Journal of Immunology* (1988), 141:2625-2628.

Bendelac et al., *J. Exp Med.* (1987) 166:823-832.

Brelje et al., *Diabetes* (1994), 43(2):263-273.

Gazdar et al., *Proc. Natl. Acad. Sci.* (1980), 77:No. 6,3519-3523.

Hamashima et al., *Cellular, Molecular and Genetic Approaches to Immunodiagnosis and Immunotherapy* (1987), 219-226 (1987).

Hanafusa et al., *Diabetes*, (1988), 37:204-208.

Jarpe et al., *Regional Immunology* (1990/1991), 3:305-317.

Korsgren et al., *Upsala J. Med. Sci.* (1993), 98:No. 1, 39-50.

McEvoy et al., *Endocrinology* (1982), 111:No. 5, 1568-1575.

Miller et al., *The Journal of Immunology* (1988), 140(1):52-58.

Primary Examiner—Leon B. Lankford, Jr.
Attorney, Agent, or Firm—Swanson & Bratschun, L.L.C.

[57]

ABSTRACT

The subject invention concerns new methods which make it possible, for the first time, to grow functional islets in in vitro cultures. The subject invention also concerns the use of the in vitro grown islet-like structures for implantation into a mammal for in vivo therapy of diabetes. The subject invention further concerns a process using the in vitro grown islet implants for growing an organ in vivo that has the same functional, morphological and histological characteristics as those observed in normal pancreatic tissue. The ability to grow these cells in vitro and organs in vivo opens up important new avenues for research and therapy relating to diabetes.

19 Claims, 11 Drawing Sheets